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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/060,156	01/30/2002	David J. Mielke	10011094-1	7543

7590 07/18/2003

AGILENT TECHNOLOGIES, INC.
Legal Department, DL429
Intellectual Property Administration
P.O. Box 7599
Loveland, CO 80537-0599

EXAMINER

SIEK, VUTHE

ART UNIT

PAPER NUMBER

2825

DATE MAILED: 07/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/060,156

Applicant(s)

MIELKE, DAVID J.

Examiner

Vuthe Siek

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 March 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ 6) ☐ Other: ____.

DETAILED ACTION

1. This office action is in response to application 10/060,156 filed on 1/30/2002.

Claims 1-20 remain pending in the application.

Claim Objections

2. Claim 1 is objected to because of the following informalities: claim 1, line 8, "Receiving" should be changed to --receiving--; line 13, "indicgfation" should be changed to --indication--. Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Roethig et al. (6,487,705).

5. As to claims 1, 11 and 16, Roethig et al. teach electronic design automation tools including embedded timing analysis, optimization and placement of cells with embedded timing analysis and optimization. The method can include designing an integrated circuit by routing with embedded timing analysis and optimization; performing reference timing analysis and embedded timing analysis using a parasitic estimation model (extracted timing model). The method compares at least two slack distributions

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resulting from timing analyses. The method can include calculating and comparing autocorrelation function of slack distributions. The method can also include calculating interrecorelation functions of slack distributions (see summary; cols. 6-8; Figs. 3A-3B, 4-6). Thus, Roethig et al. teach receiving a reference timing value (from a reference timing analysis); receiving an extracted model timing value (from embedded timing analysis); determining difference between said reference timing value and said extracted model timing value (comparison from resulting of timing analyses). Also Roethig et al. teach outputting result when the comparison is successful.

6. As to claims 2-3, Roethig et al. teach database for storing reference design, design data and information related to performing timing analyses. Thus, databases can also be used to store data representing the predetermined permissible range, since the predetermined permissible range is considered to be a required accuracy that may be limited to be within an error range when performing above comparison.

7. As to claims 4, 14-15, and 19-20, Roethig et al. teach generating a structural model representative of a signal path and parasitic estimation model (predetermined extracted timing model) (col. 6, lines 38-43; Figs. 3A).

8. As to claims 5-6, 12-13 and 17-18, Roethig et al. teach performing reference timing analysis using reference design database, performing embedded timing analysis using extracted parasitic model, and comparing the results of timing analyses to be an acceptable range or slacks between both timing analyses are matching or satisfactory (cols. 6-8). Thus, reference timing resulting from reference timing analysis corresponds to the reference timing value representative time required for a predetermined signal to

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propagate thru a data path represented by the structural model and extracted parasitic values; the result from performing embedded timing analysis using extracted parasitic model corresponding to extracted model timing representative of the time required for said predetermined signal to propagate thru a data path represented by a predetermined extracted timing model.

As to claims 7-10, Roethig et al. teach the comparison between timing reference and timing from embedded timing analysis would establish a satisfactory match or mismatch (read as whether the difference of timings is within a satisfactory range). Identification and correction of the cause of mismatch result in change of the timing constraints and exceptions from designer, or in the selection of a different parasitic estimation model. Thus, timing analyses and optimization as taught by Roethig et al. would require a controller as claimed in order to establish a satisfactory match or to establish the difference of timings to be within the predetermined permissible range

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vuthe Siek whose telephone number is (703) 305-4958. The examiner can normally be reached on M-F (6:30-4:00) 2nd Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Smith can be reached on (703) 308-1323. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.

Vuthe Siek
Primary Examiner
July 2, 2003



VUTHE SIEK
PRIMARY EXAMINER